104TH CONGRESS
1ST SESSION

S. 1153

To authorize research, development, and demonstration of hydrogen as an energy carrier, and a demonstration-commercialization project which produces hydrogen as an energy source produced from solid and complex waste for on-site use in fuel cells, and for other purposes.

IN THE SENATE OF THE UNITED STATES

AUGUST 10 (legislative day, JULY 10), 1995

Mr. BURNS introduced the following bill; which was read twice and referred to the Committee on Energy and Natural Resources

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A BILL

To authorize research, development, and demonstration of hydrogen as an energy carrier, and a demonstration-commercialization project which produces hydrogen as an energy source produced from solid and complex waste for on-site use in fuel cells, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the ''Hydrogen Fuel Cell Commercialization Act of 1995''.

SEC. 2. FINDINGS.

Congress finds that—

(1) fossil fuels, the main energy source of the present, have provided this country with tremendous supply but are limited;

(2) additional research, development, and demonstration are needed to encourage private sector investment in development of new and better energy sources and enabling technologies;

(3) hydrogen holds tremendous promise as a fuel because it can be extracted from water and solid waste, can be burned much more cleanly than conventional fuels, and is a source of energy for fuel cells;

(4) inefficiencies in the production of hydrogen are a major technical barrier to society's collectively benefiting from one of the great energy carriers of the future;

(5) an aggressive, results-oriented, multiyear research, demonstration-commercialization initiative on efficient hydrogen fuel production and use should be fostered and maintained;

(6) the current Federal effort to develop hydrogen as a fuel is inadequate; and

(7) there is ready to proceed a demonstration-commercialization project that—

(A) produces hydrogen from solid and complex waste for use in fuel cells and uses a 300-kilowatt photovoltaic facility in existence on the date of enactment of this Act and a cryoaquatic reservoir as central parts of a total energy integrated system, with regeneration on-site; and

(B) will be environmentally beneficial and have the useful by-products of electric power, heat, fuel for fuel cells, and pure water.

SEC. 3. PURPOSES.

The purposes of this Act are—

(1) to direct the Secretary of Energy to conduct a research, development, and demonstration-commercialization program leading to the production, storage, transport, and use of hydrogen for industrial, institutional, residential, transportation, and utility applications;

(2) to provide advice from academia and the private sector in the implementation of the Department of Energy's hydrogen research, development, and demonstration-commercialization program to ensure that economic benefits of the program accrue to the United States; and

(3) to provide for the immediate implementation of the demonstration-commercialization project.

SEC. 4. DEFINITIONS.

In this Act:

(1) DEPARTMENT.—The term ''Department'' means the Department of Energy.

(2) DEMONSTRATION-COMMERCIALIZATON PROJECT.—The term ''demonstration-commercialization project'' means a project that—

(A) produces hydrogen from solid and complex waste for use in fuel cells and uses a 300-kilowatt photovoltaic facility in existence on the date of enactment of this Act and a cryoaquatic reservoir as central parts of a total energy integrated system, with regeneration on-site; and

(B) will be environmentally beneficial and have the useful by-products of electric power, heat, fuel for fuel cells, and pure water.

(3) SECRETARY.—The term ''Secretary'' means the Secretary of Energy.

SEC. 5. RESEARCH AND DEVELOPMENT.

(a) AUTHORIZED ACTIVITIES.—

(1) IN GENERAL.—Pursuant to this section, the Spark M. Matsunaga Hydrogen Research, Development, and Demonstration Act of 1990 (42 U.S.C. 12401 et seq.), and section 2026 of the Energy Policy Act of 1992 (42 U.S.C. 13436), and in accordance with the purposes of this Act, the Secretary

shall conduct a hydrogen energy research, development, and demonstration-commercialization program relating to production, storage, transportation, and use of hydrogen, with the goal of enabling the private sector to demonstrate the feasibility of using hydrogen for industrial, institutional, residential, transportation, and utility applications.

(2) PRIORITIES.—In establishing priorities for Federal funding under this section, the Secretary shall survey private sector hydrogen activities and take steps to ensure that activities under this section do not displace or compete with privately funded hydrogen activities of the United States industry.

(b) SCHEDULE.—

(1) SOLICITATION.—Not later than 180 days after the date of enactment of an Act providing appropriations for programs authorized by this Act, the Secretary shall solicit proposals from all interested parties for research and development activities authorized under this section.

(2) DEPARTMENT FACILITY.—The Secretary may consider, on a competitive basis, a proposal from a contractor that manages and operates a department facility under contract with the Depart-

ment, and the contractor may perform the work at that facility or any other facility.

(3) AWARD.—Not later than 180 days after proposals are submitted, if the Secretary identifies 1 or more proposals that are worthy of Federal assistance, the Secretary shall award financial assistance under this section competitively, using peer review, when appropriate, of proposals with appropriate protection of proprietary information.

(c) COST SHARING.—

(1) RESEARCH.—

(A) IN GENERAL.—Except as provided in subparagraph (B), in the case of a research proposal, the Secretary shall require a commitment from non-Federal sources of at least 25 percent of the cost of the research.

(B) BASIC OR FUNDAMENTAL NATURE.—The Secretary may reduce or eliminate the non-Federal requirement under subparagraph (A) if the Secretary determines that the research is purely basic or fundamental.

(2) DEVELOPMENT AND DEMONSTRATION.—

(A) IN GENERAL.—In the case of a development or demonstration proposal, the Secretary shall require a commitment from non-

Federal sources of at least 50 percent of the cost of development or demonstration.

(B) TECHNOLOGICAL RISKS.—The Secretary may reduce the non-Federal requirement under subparagraph (A) if the Secretary determines that—

(i) the reduction is necessary and appropriate considering the technological risks involved in the project; and

(ii) the reduction is necessary to serve the purpose and goals of the Act.

(3) NATURE OF NON-FEDERAL COMMITMENT.—In calculating the amount of the non-Federal commitment under paragraph (1) or (2), the Secretary shall include cash and fair market value of personnel, services, equipment, facilities associated with the project that are integral to the demonstration-commercialization, and other resources.

(d) CONSULTATION.—Before financial assistance is provided under this section or the Spark M. Matsunaga Hydrogen Research, Development, and Demonstration Act of 1990 (42 U.S.C. 12401 et seq.)—

(1) the Secretary shall determine, in consultation with the United States Trade Representative and the Secretary of Commerce, that the terms and

conditions under which financial assistance is provided are consistent with the Agreement on Subsidies and Countervailing Measures referred to in section 101(d)(12) of the Uruguay Round Agreement Act (19 U.S.C. 3511(d)(12)); and

(2) an industry participant shall be required to certify that—

(A) the participant has made reasonable efforts to obtain non-Federal funding for the entire cost of the project; and

(B) full non-Federal funding could not be reasonably obtained.

(e) DUPLICATION OF PROGRAMS.—The Secretary shall not carry out any activity under this section that unnecessarily duplicates an activity carried out by another government agency or the private sector.

SEC. 6. DEMONSTRATION-COMMERCIALIZATION PROJECT.

(a) IN GENERAL.—The Secretary shall assist in the development and operation of a demonstration-commercialization project.

(b) COST SHARING.—

(1) FEDERAL SHARE.—The Federal share of the development and operation of the demonstration-commercialization project shall not exceed 50 percent.

(2) NATURE OF NON-FEDERAL SHARE.—In calculating the amount of the non-Federal share committed to the project, the Secretary shall include cash and fair market value of, personnel, services, equipment, existing facilities, development costs, and other resources associated with the demonstration-commercialization project.

SEC. 7. TECHNOLOGY TRANSFER.

(a) EXCHANGE.—The Secretary shall foster the exchange of generic, nonproprietary information and technology developed pursuant to section 5 among industry, academia, and government agencies and establish a central depository for technical information and technology transfer.

(b) ECONOMIC BENEFITS.—The Secretary shall ensure that economic benefits of the exchange of information and technology will accrue to the United States economy.

SEC. 8. REPORTS TO CONGRESS.

(a) IN GENERAL.—Not later than 18 months after the date of enactment of this Act, and annually thereafter, the Secretary shall transmit to Congress a detailed report on the status and progress of the Department's hydrogen research and development program.

(b) CONTENTS.—A report under subsection (a) shall include—

(1) an analysis of the effectiveness of the program, to be prepared and submitted by the Hydrogen Technical Advisory Panel established under section 108 of the Spark M. Matsunaga Hydrogen Research, Development, and Demonstration Act of 1990 (42 U.S.C. 12407); and

(2) recommendations of the panel for any improvements in the program that are needed, including recommendations for additional legislation.

SEC. 9. COORDINATION AND CONSULTATION.

(a) COORDINATION WITH OTHER FEDERAL AGENCIES.—The Secretary shall—

(1) coordinate all hydrogen research and development activities in the Department with the activities of other Federal agencies, including the Department of Defense, the Department of Transportation, and the National Aeronautics and Space Administration, that are engaged in similar research and development; and

(2) pursue opportunities for cooperation with those Federal entities.

(b) CONSULTATION.—The Secretary shall consult with the Hydrogen Technical Advisory Panel established under section 108 of the Spark M. Matsunaga Hydrogen

Research, Development, and Demonstration Act of 1990 (42 U.S.C. 12407) as necessary in carrying out this Act.

SEC. 10. AUTHORIZATION OF APPROPRIATIONS.

There are authorized to be appropriated to carry out this Act—

(1) for research, development, and demonstration projects—

(A) $25,000,000 for fiscal year 1997;

(B) $35,000,000 for fiscal year 1998; and

(C) $40,000,000 for fiscal year 1999; and

(2) for the demonstration-commercialization project—

(A) $25,000,000 for fiscal year 1997; and

(B) $25,000,000 for fiscal year 1998.

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